

CLAIMS

1. A method for the dilution of dewatered and compressed cellulose pulp that has been consolidated into large pieces, where the dewatered cellulose pulp maintains a first consistency greater than 20%, preferably greater than 25%, and even more preferably greater than 30%, whereby the cellulose pulp is fragmented into a finely divided pulp after or in association with dewatering, *c h a r a c t e r i s e d i n*
 - that the cellulose pulp is granulated through fragmentation to a particle size with a normal distribution with a maximum size that is less than 40 mm, preferably less than 30 mm, and even more preferably less than 20 mm, and that during fragmentation maintains a consistency that is essentially equivalent to the first consistency,
 - that the pulp that has been finely divided through the fragmentation is fed out into a freely falling flow,
 - that dilution fluid is added under pressure towards the freely falling fragmented pulp through a number of fluid jets (62) arranged in association with the flow of the freely falling fragmented pulp,
 - that the amount of dilution fluid added through the said fluid jets (62) establishes a second consistency of the cellulose pulp in the medium-consistency range 8-16%,
 - that the cellulose pulp at this medium consistency 8-16% is fed onwards to subsequent treatment stages,
 - that the dilution of the freely falling pulp down to a medium consistency of 8-16% before it is fed onwards to subsequent treatment stages takes place essentially exclusively under the influence of hydrodynamic effect from the addition of the dilution fluid through the said fluid jets, and where no mechanical agitation takes place between the fragmentation of the cellulose pulp and the underlying surface (Liq_{LEV}) of the cellulose pulp that has been diluted by the dilution fluid that has been established.
2. The method according to claim 1, *c h a r a c t e r i s e d i n* that the fluid jets are arranged around the flow of fragmented pulp formed in the free fall, and are directed principally radially inwards towards the flow.

3. The method according to claim 1, characterised in that the cellulose pulp at medium consistency is fed onwards to subsequent treatment stages through pumping.
- 5 4. The method according to either claim 1 or claim 2, characterised in that the dilution fluid added is added to a degree of more than 50%, preferably more than 75-90%, through the said fluid jets (62).
- 10 5. The method according to any one of claims 1-3, characterised in that the addition of dilution fluid from the relevant fluid jets (62) takes place in the form of pressurised fluid jets that are directed obliquely downwards in the direction of fall of the cellulose pulp.
- 15 6. The method according to claim 4, characterised in that the fluid jets are directed at an angle of $45^\circ \pm 15^\circ$ relative to the vertical direction and the direction of fall of the granulate.
- 20 7. A device for the dilution of dewatered cellulose pulp from dewatering equipment (7,80) to which pulp at an initial consistency in the range 4-12% has been fed and in which the cellulose pulp after dewatering maintains a consistency greater than 20%, preferably greater than 25%, and even more preferably greater than 30%, whereby the cellulose pulp is fed to fragmentation equipment (8, 8b) to be fragmented into a finely divided pulp, characterised in
 - 25 - that the cellulose pulp is granulated through fragmentation in the fragmentation equipment (8, 8b) into a particle size with a normal distribution with a maximum size that is less than 40 mm, preferably less than 30 mm, and even more preferably less than 20 mm,
 - that the pulp that has been finely divided is fed from the outlet of the
 - 30 fragmentation equipment into an essentially vertical stand pipe (22/40'), under free fall,
 - that a number of nozzles (62) are arranged around the circumference of the stand pipe (22), from which nozzles dilution fluid (Liq_{DIL}) is added

- under pressure into the stand pipe and above a level (Liq_{LEV}) of diluted cellulose pulp established in the stand pipe,
- where the amount of added dilution fluid (Liq_{DIL}) establishes a consistency of the cellulose pulp in the range of medium consistency 8-16% and that this added amount, to more 50%, preferably to more than 75-90%, is added through the said nozzles (62) arranged above a level (Liq_{LEV}) established in the stand pipe,
 - that the cellulose pulp at this medium consistency is fed onwards to subsequent treatment stages by a feed arrangement (41),
 - 10 - that the dilution of the pulp to a medium consistency of 8-16% in the stand pipe takes place exclusively under the influence of hydrodynamic effect from the addition of dilution fluid through the said nozzles and without the use of a mechanical agitator above the level (Liq_{LEV}) of fluid established in the stand pipe (22/40')
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- 8. The device according to claim 7 characterised in that the cellulose pulp at this medium consistency is fed onwards to subsequent treatment stages for the cellulose pulp with a pump (41) connected to the stand pipe (22/40') at its lower part close to the bottom of the stand pipe, under the level (Liq_{LEV}) of fluid established.
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 - 9. The device according to claim 7 characterised in that at least four nozzles are arranged around the periphery of the stand pipe, where the distance between neighbouring nozzles is less than 50-300 mm (22/40').
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- 10. The device according to claim 9 characterised in that each nozzle is directed in towards the centre of the stand pipe and obliquely downwards at an angle relative to the vertical and the direction of fall of the granulate of $45 \pm 15^\circ$.
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 - 11. The device according to claim 10 characterised in that all nozzles are connected to a common distribution chamber (60) for dilution fluid, which chamber is pressurised through a pressure-raising device (61).